

RESEARCH BRIEF

COMPANION



PROOF OF CONCEPT: BAKED BISCUITS UTILIZING SPRAY DRIED PLASMA PRODUCTS

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BACKGROUND INFORMATION

Baked biscuits utilize various flours and ingredients for ideal texture and product quality. Alternative ingredients to enhance or impact texture, palatability, or health benefits can be useful for baked biscuit manufacturing. Spray dried plasma (SDP) or Cravings (hydrolyzed plasma) are high protein ingredients utilized in pet food for functional texture properties, enhancing palatability, or supporting overall health.

STUDY OBJECTIVE

The study objective was to evaluate how SDP or Cravings inclusion impacts texture and palatability of baked biscuits utilizing wheat gluten.



EXPERIMENTAL PROCEDURE

The study evaluated palatability and texture of baked biscuits utilizing 1% SDP or Cravings to replace wheat gluten in control formula. Palatability testing was conducted with 20 dogs for a 2-day test. Different ingredient sources and processing conditions were used in each study accounting for differences in texture of final product.

Baked biscuits were made by preparing the dough utilizing a KitchenAid mixer equipped with a dough hook, rolling out by hand to a set depth and size, and then baking to moisture level of less than 10%. Three replicate batches of each formula were completed for analysis per study.

Texture was measured on a TA.XT Plus utilizing an adjustable bridge with a rounded-end knife probe for a 3-point bend. Baked biscuits of 2 cm x 7 cm were placed over the two-bridge span spaced 2.5 cm apart to measure maximum force to break (hardness), fracturability, and stiffness to determine texture. Five baked biscuits per treatment were analyzed for texture from each replicate batch. Digital calipers were utilized to measure biscuit dimensions and volume.

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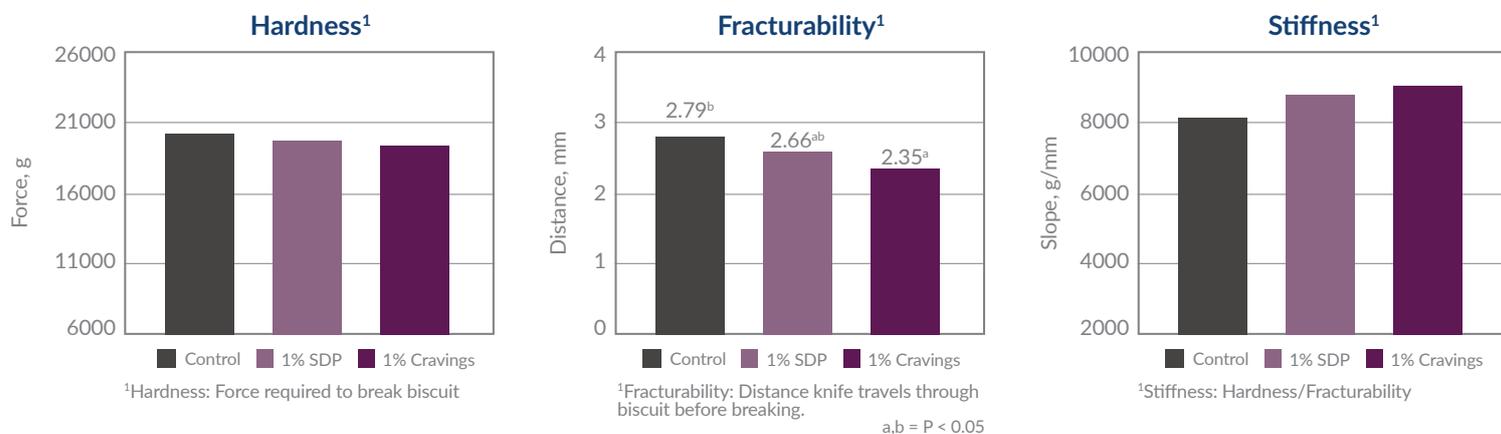


PROOF OF CONCEPT: TEST FORMULA

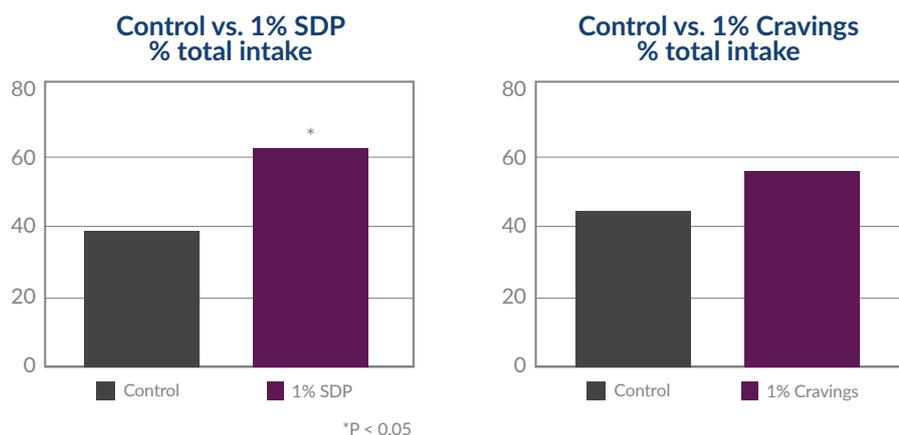
	Control	SDP	Cravings
Ground Wheat	70	70	70
Pork Meat & Bone Meal, 50	14.5	14.5	14.5
Vital Wheat Gluten	6	5	5
SDP	0	1	0
Cravings	0	0	1
Other ¹	9.5	9.5	9.5
Sum	100	100	100

¹Other: Chicken meal, poultry fat, corn gluten meal, salt, and mold inhibitor

RESULTS: TEXTURE



RESULTS: PALATABILITY



SUMMARY

SDP and Cravings can be incorporated into baked biscuits as a processing aide to impact texture depending on ingredient matrix and target, while SDP also improves palatability. Overall, both SDP and Cravings can be an alternative to vital wheat gluten to maintain or enhance product quality.

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